

WHAT IS CLAIMED IS:

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1. A route selection method for a voice communication system, which system comprises:
- 10 a plurality of networks including IP networks; and
- a plurality of voice gateways, interconnecting said IP networks with the other networks for voice communication,
- 15 said voice gateways being hierarchically divided into first voice gateways for accommodating nodes of said networks other than the IP networks, and second voice gateways for delivering information about the route selection;
- said method comprising the steps of:
- (a) controlling each of said second voice
- 20 gateways to hold a route selection table indicating a correspondence between steering numbers and transport addresses for identifying routes in the IP network;
- (b) controlling one of said first voice
- 25 gateways as an originating voice gateway to transmit a destination inquiring message, including a transport address of said originating voice gateway and a destination office number, to a predetermined one of said second voice gateways in which said
- 30 destination inquiring message is collated with said route selection table thereof and is forwarded towards one of said first voice gateways as a destination voice gateway; and
- (c) controlling said destination voice
- 35 gateway to transmit a destination determination message including a transport address of said destination voice gateway to said originating voice

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2. The route selection method as claimed in claim 1, wherein said step (a) further includes a step of controlling said voice gateway, in a predetermined case, to transmit a steering number and a transport address thereof to said second voice gateway.

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(d) controlling said originating voice gateway, after receiving said destination determination message, to record a destination transport address and a destination steering number, which are included in said destination determination message, in a route selection table thereof,

said route selection table indicating a correspondence between said destination transport address and said destination steering number.

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(e) controlling said originating voice gateway, after receiving said destination determination message, to refer to traffic between said originating voice gateway and said destination

*(The following are the names of the persons who have been elected to the various offices of the Association, as reported by the Secretary.)*

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7. The route selection method as claimed

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10. The voice gateway as claimed in claim 9, further comprising:

a transmitting part which, in a predetermined case, transmits a steering number and a transport address of said voice gateway to said predetermined voice gateway.

11. The voice gateway as claimed in claim 9, further comprising:

a recording part which records said destination transport address and a destination steering number of said destination voice gateway, which are included in said destination determination message, in a route selection table thereof,

said route selection table indicating a correspondence between said destination transport address and said destination steering number of said destination voice gateway.

12. The voice gateway as claimed in claim 9, further comprising:

a recording part which, after receiving said destination determination message from said destination voice gateway, refers to traffic between said voice gateway and said destination voice gateway, and, only when said traffic meets a predetermined traffic requirement, records said destination transport address and a destination steering number of said destination voice gateway in a route selection table thereof,

said route selection table indicating a

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correspondence between said destination transport address and said destination steering number of said destination voice gateway.

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10 13. The voice gateway as claimed in claim 11, said call-setup part comprising:

15 a quick-call-setup part, which after detecting said call-setup request, refers to said route selection table so as to obtain said destination transport address, and then performs said call setup towards said destination transport address; and

20 a transmitting part which, in a case of said quick-call-setup part failing to perform said call setup towards said destination transport address, transmits said destination inquiring message to said predetermined voice gateway.

25 14. The voice gateway as claimed in claim 11, further comprising:

30 a deleting part which deletes said destination transport address and said corresponding destination steering number from said route selection table if said destination transport address recorded on said route selection table is not referred to during a predetermined period.

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15. The voice gateway as claimed in claim

9, further comprising:

5 a receiving part which receives a failure message in a case where said destination inquiring message has been transmitted to said predetermined voice gateway but said destination cannot be detected and

10 an alternate-call-setup part which selects a network other than one of the IP networks to perform said call setup when said failure message is received.

15 16. The voice gateway as claimed in claim 9, further comprising:

20 a notifying part which, when said steering number and said transport address of said voice gateway are changed, notifies said predetermined voice gateway of said changed steering number and said changed transport address.

25 17. A voice gateway interconnecting IP networks and other networks for voice communication, said voice gateway comprising:

30 a transmitting part which, after receiving a destination inquiring message, refers to a route selection table thereof, which route selection table indicates a correspondence between steering numbers and transport addresses, and then transmits said destination inquiring message towards a transport  
35 address obtained by referring to said route selection table.

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18. The voice gateway as claimed in claim  
5 17, further comprising:

a transmitting part which, in a  
predetermined case, transmits a steering number and  
a transport address to a predetermined voice  
gateway; and

10 a recording part which, after receiving a  
steering number and a transport address from another  
voice gateway in said predetermined case, records  
said received steering number and said received  
transport address in said route selection table  
15 thereof.

20 19. The voice gateway as claimed in claim  
17, further comprising:

a deleting part which deletes said  
transport address and said corresponding steering  
number from said route selection table if said  
25 transport address recorded in said route selection  
table is not referred to during a predetermined  
period.

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20. The voice gateway as claimed in claim  
17, further comprising:

a failure-message transmitting part which  
35 transmits a failure message to an originating voice  
gateway which has transmitted said destination  
inquiring message, in a case where said destination

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cannot be detected even though said destination inquiry message has been received, said selection table has been referred to.

21. The voice gateway according to claim 17, further comprising:

- a notifying part which, upon receiving said steering number and said transport address, notifies a predetermined voice gateway of said changed steering number and said transport address; and
- a recording part which, upon receiving said steering number and a transport address from said voice gateway and records said steering number and said transport address in said route selection table.

22. A computer readable program code for controlling a voice gateway for interconnecting IP networks with a destination for voice communication, said computer readable program code comprising:

- program code means for, upon receiving said steering number, said gateway detects a call-setup request from said other networks, controlling said gateway to transmit a destination inquiry message to said predetermined voice gateway, and
- program code means for, upon receiving said steering number, said gateway receives a destination determination message from said controlling said voice gateway to setup towards a destination transport address, said steering number included in said destination determination message.

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~~20                     24. A route selection method for  
voice gateways which are hierarchically divided into  
first voice gateways for accommodating nodes of  
networks other than IP networks, and second voice  
gateways for transferring information about a route  
25       selection, said method comprising the steps of:~~

(a) controlling each of said second voice gateways to hold a route selection table indicating a correspondence between steering numbers and transport addresses for identifying routes on the IP network;

(b) controlling one of said first voice gateways as an originating voice gateway to transmit a destination inquiring message, including a transport address of said originating voice gateway and a destination office number, to a predetermined one of said second voice gateways in which said destination inquiring message is collated with said

route selection table thereof and is forwarded towards one of said first voice gateways as a destination voice gateway; and

(c) controlling said destination voice gateway to transmit a destination determination message including a transport address of said destination voice gateway to said originating voice gateway.

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